

Amendments to the Specification

Please amend the second full paragraph on page 1 as follows:

This application is based on Provisional U.S. Application Serial No. 60/181,619 filed February 10, 2000 and entitled "Method For Manufacturing A Flat Panel Display Using Localized Wet-~~Etching~~". Etching."

Please amend the second full paragraph on page 5 as follows:

Another object of the invention ~~is~~ is to provide a method of manufacturing an FED having a reduced number of photolithography/etch/strip sequences.

Please amend the first full paragraph on page 6 as follows:

For ~~a fuller~~ a better understanding of the nature and objects of the present invention, reference should be made to the following detailed description taken in connection with the accompanying drawings in which like reference numerals are used to indicate the same or similar parts wherein:

Please amend the second full paragraph on page 6 as follows:

FIGURE 1 ~~is a cross-section~~ a cross-sectional view of a portion of an exemplary prior art FED;

Please amend the third full paragraph on page 7 as follows:

~~It is therefore~~ is, therefore, important to remove these deposited layers and recover the topology of the marks to enable recognition by alignment systems. In conventional FED manufacturing, a full panel lithograph/etch/strip sequence is performed to selectively remove the deposited layers on the alignment marks. While this process adequately uncovers the marks, it is a costly, ~~time-consuming~~ time-consuming and complex process.

Please amend the paragraph bridging pages 7 and 8 as follows:

In accordance with one aspect of the present invention, a localized etch is performed to clear the alignment marks 106 without photolithography. In the inventive process, localized etching is performed on only the alignment marks on the peripheral area of the panel, leaving the remainder of the FED, including the central active area 102, unetched. The localized etching is preferably performed by spraying wet etchant over the alignment marks, e.g., in zones indicated in phantom by reference numeral 108. The localized etch is applied on the marks preferably using ~~nozzles~~ nozzles 114 positioned above the marks, which spray the etchant (FIG. 4). Because the alignment marks 106 are located in the peripheral region 104, even if application of the spray zone 108 is off by 200 microns or so, the etching process to clear the alignment marks will still generally succeed. (By contrast, an error of this magnitude in the active central region 102 will usually result in a defective product because of the higher resolution of the structures in this region.)

Please amend the first full paragraph on page 8 as follows:

Referring to FIGURE 3, in accordance with another aspect of the invention, bond pads 110 in the peripheral area 104 of the cathode assembly are cleared using localized etching. Bond pads 110 are used as the terminals for electrically connecting active circuits in the FED to external circuits. During fabrication of the FED, the bond pads are covered by insulating oxide and nitride passivation layers that must eventually be removed. In conventional FED fabrication, a full panel ~~photolithography/etch/strip~~ photolithography/etch/strip sequence is performed to selectively etch the bond pads to remove the passivation layers. As previously discussed, photolithography processes are costly and time consuming. In accordance with the present invention, localized etching is selectively performed on the bond pads, leaving the remainder of the panel including the central active array region unetched. This process advantageously avoids the need for a costly photolithography/etch/strip sequence for clearing the bond pads.

Please amend the second full paragraph on page 8 as follows:

To perform the localized etching of the bond pads, wet etchant is preferably applied on the bond pads in elongated spray zones 112 in the peripheral area 104 of the panel 100. To form the elongated spray zones 112, the etchant is preferably sprayed from a ~~nozzle~~ nozzle 114 as it is moved linearly over the panel. Alternatively, the ~~nozzle~~ nozzle 114 can be held stationary and the panel moved relative to the ~~nozzle~~ nozzle 114 to create the spray zone (FIG. 5).